

**Dr. Duke's Phytochemical and Ethnobotanical Databases**

**List of Plants for GERMACRENE-D**

Plant	Part	Low PPM	High PPM	StdDev	Reference
Achillea millefolium	Leaf				--
Acinos alpinus	Shoot		285.0	-0.21071409714249162	Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of <i>Acinus alpinus</i> (L.) Moench ssp. <i>meridionalis</i> (Nyman). P.W. Ball Growing in Spain. Flav. & Frag. J. 8:127-130.)
Acinos alpinus	Shoot		285.0	-0.21071409714249162	Velasco-Negueruela,A., Perez-Alonso,M.J., Jiminez,S.M. and Garcia,F.M. 1993. The Volatile Constituents of <i>Acinus alpinus</i> (L.) Moench ssp. <i>meridionalis</i> (Nyman). P.W. Ball Growing in Spain. Flav. & Frag. J. 8:127-130.)
Agastache rugosa	Shoot				Jim Duke's personal files.
Agastache urticifolia	Plant		26.0	-0.39964892830400217	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Agastache nepetoides	Plant	240.0	260.0	-0.20244844110866017	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Agastache foeniculum	Plant	25.0	2525.0	1.7063511464872785	--
Ageratum conyzoides	Shoot		6320.0	3.172650201402638	R. Vera, (1993); Chemical composition of the essential oil <i>Ageratum conyzoides</i> L. (Asteraceae) from Reunion, Flavour Fragr. J., Vol.8, 257-260.
Aloysia citrodora	Plant	18.0	126.0	-0.3153752158273603	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Anethum graveolens	Leaf	70.0	190.0	-0.37126607051679333	--
Angelica archangelica	Root	2.0	26.0	1.0	--
Angelica archangelica	Root Essent. Oil				--
Aralia cordata	Root		16.0	-1.0	--
Artemisia annua	Plant	24.0	7320.0	5.747275659742257	--
Artemisia salsoloides	Shoot		2850.0	1.2272858077072613	V. Kaul, P. Weyerstahl, H. Wahlberg, H. Marschall, (1992); Volatile constituents of the essential oil and the absolute of <i>Artemisia salsoloides</i> Willd. from Ladakh, Flavour and Fragrance journal, Vol.7, 299-305.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Ballota nigra</i>	Plant		127.0	-0.3145324787025939	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Bidens pilosa</i>	Leaf Essent. Oil		730000.0	1.7315429666935105	Jim Duke's personal files.
<i>Calamintha nepeta</i>	Shoot		11.0	-0.36432500315763106	Kirimer, N., Baser, K.H.C., Ozek, T. and Kurkcuoglu, M. 1992. Composition of the Essential Oil of <i>Calamintha nepeta</i> subsp. <i>glandulosa</i> . <i>J. Ess. Oil Res.</i> 4:189-190
<i>Carica papaya</i>	Fruit				--
<i>Carthamus tinctorius</i>	Leaf		0.04	-0.525020905500319	--
<i>Carum carvi</i>	Seed Essent. Oil				--
<i>Carum carvi</i>	Essential Oil				--
<i>Centella asiatica</i>	Shoot				Jim Duke's personal files.
<i>Centella asiatica</i>	Plant				--
<i>Centella asiatica</i>	Essential Oil		160000.0	1.0	Jim Duke's personal files.
<i>Chamaemelum nobile</i>	Plant				--
<i>Chrysanthemum x morifolium</i>	Plant	36.0	130.0	-0.3120042673282946	Wealth of India.
<i>Chrysanthemum parthenium</i>	Shoot		45.0	-0.3452637958418838	Hendriks, H., Bos, R., and Woerdenbag, H. J. 1996. The Essential Oil of <i>Tanacetum parthenium</i> (L.) Schultz-Bip. <i>Flavor and Fragrance Journal</i> 11(6): 367-71.
<i>Citrus paradisi</i>	Pericarp		13.0		--
<i>Cleonia lusitanica</i>	Leaf	1.0	2.0	-0.5234344690054373	Perez-Alonso, M., Velasco-Negueruela, A., and Lopez-Saez, A. 1991. The Essential Oil of <i>Cleonia lusitanica</i> . <i>J. Ess. Oil Res.</i> , 3: 441-442.
<i>Collinsonia canadensis</i>	Plant		230.0	-0.22773055485165272	--
<i>Dracocephalum thymiflora</i>	Plant		140.0	-0.30357689608063043	--
<i>Dracocephalum parviflora</i>	Plant		310.0	-0.16031158487033922	--
<i>Echinacea angustifolia</i>	Shoot				Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
<i>Echinacea</i> spp	Root				Economic & Medicinal Plant Research, 5: 253.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Echinacea purpurea	Shoot		120.0	-0.3032170149983238	--
Echinacea pallida	Shoot				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Elsholtzia blanda	Shoot		0.1	-0.3704358019735618	Bestman, H.J., Rauscher, J., Vostrowsky O., Pant, A.K., Dev. V., Perihar, R. and Mathela, C.S. 1992. Constituents of the Essential Oil of Elsholtsia blanda Benth. (Labiatae). J. Ess. Oils Res. 4: 121-124
Elsholtzia eriostachya	Shoot		1.3	-0.36976305348006483	Pant, A.K., Dev, V., Parihar, R., Mathela,C.S., Rauscher, J., Vostrowsky, O. and Bestmann, H.J. 1992. The Essential Oil from Elsholtzia eriostachya var. pusilla. J. Ess. Oil Res. 4: 547-549.
Ficus carica	Fruit				--
Ficus carica	Leaf Essent. Oil				--
Galeopsis tetrahit	Shoot		22.0	-0.3581581419672422	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Glechoma hederacea	Plant	20.0	116.0	-0.32380258707502446	--
Hedeoma pulegioides	Plant	36.0	180.0	-0.2698674110899737	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Hedeoma hispida	Plant		354.0	-0.1232311513806168	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Humulus lupulus	Fruit		15.0	-1.0	--
Hyssopus officinalis	Shoot		990.0	0.18452564278697262	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		920.0	0.1452819806663166	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Leaf	4.0	3100.0	1.9841064805574304	--
Hyssopus officinalis	Essential Oil				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
Hyssopus officinalis	Shoot		920.0	0.1452819806663166	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		1030.0	0.20695059257020465	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		670.0	0.005126044521116516	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Flower	10.0	200.0	0.6421278095722747	--
Hyssopus officinalis	Shoot		110.0	-0.3088232524441318	Tsankova, E.T., Konatchiev, A.N. and Genova, E.M. 1993. Chemical Composition of the Essential Oils of Two <i>Hyssopus officinalis</i> cultivars. J. Ess. Oil Res. 5: 609-611.
Hyssopus officinalis	Shoot		970.0	0.1733131678953566	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		1550.0	0.4984749397522208	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		900.0	0.1340695057747006	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
Hyssopus officinalis	Shoot		110.0	-0.3088232524441318	Tsankova, E.T., Konatchiev, A.N. and Genova, E.M. 1993. Chemical Composition of the Essential Oils of Two <i>Hyssopus officinalis</i> cultivars. J. Ess. Oil Res. 5: 609-611.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Hyssopus officinalis</i>	Shoot		950.0	0.1621006930037406	Kerrola, K., Galambosi, B. and Kallio, H. 1994. Volatile Components and Odor Intensity of Four Phenotypes of Hyssop ( <i>Hyssopus officinalis</i> L.) J. Agric. Food Chem. 42: 776-781.
<i>Inula helenium</i>	Root				Abstract (See species file)
<i>Isanthus brachiatius</i>	Plant		1.0	-0.42071735642316266	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Juglans regia</i>	Leaf				Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
<i>Juniperus communis</i>	Fruit	3.0	32.0	1.0	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Lavandula x hybrida</i>	Shoot	19.0	45.0	-0.3452637958418838	Tucker, A.O., Maciarelli, M.J., Angell, S., Espaillat, J.R., and French, E.C. 1993. The Essential Oil of <i>Lavandula x hybrida</i> Balb. ex Ging., a Distinct Hybrid from <i>L. x heterophylla</i> Poir. (Labiatae). J. Ess. Oil Res. 5: 443-445.
<i>Lavandula x intermedia</i>	Plant	50.0	90.0	-0.34571375231895135	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Leonotis leonurus</i>	Se		18.0		Pedro, L.G., Barroso, J.G., Marques, N.T., Ascensao, L., Pais, M.S.S. and Scheffer, J.J.C. 1991. Composition of the Essential Oil from Sepals of <i>Leonotis leonurus</i> R. Br. J. Ess. Oil Res. 3: 451-3
<i>Lindera benzoin</i>	Leaf		3.0	-0.5226250626304977	--
<i>Lonicera japonica</i>	Flower	3.876	6.179	-1.4869855579885145	Schlotzhauer, W.S., S.D. Pair, and R.J. Horvat. 1996. Volatile constituents from the flowers of Japanese Honeysuckle. J. Agric. Food Chem. 44:206-209.
<i>Lycopus virginicus</i>	Plant	52.0	130.0	-0.3120042673282946	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Lycopus americanus</i>	Plant		22.0	-0.40301987680306783	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Lycopus uniflorus</i>	Plant	8.0	29.0	-0.3971207169297029	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Lycopus europeus</i>	Plant		22.0	-0.40301987680306783	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Magnolia denudata</i>	Plant				--
<i>Magnolia denudata</i>	Bark				--
<i>Magnolia denudata</i>	Leaf				--
<i>Magnolia denudata</i>	Twig				--
<i>Magnolia denudata</i>	Bulb				--
<i>Melissa officinalis</i>	Shoot	0.0	1080.0	0.23498177979924464	--
<i>Mentha aquatica</i>	Leaf	70.0	595.0	-0.04345648866625705	--
<i>Mentha x piperita</i>	Essential Oil				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
<i>Mentha arvensis var. piperascens</i>	Essential Oil				Jim Duke's personal files.
<i>Mentha aquatica</i>	Shoot		130.0	-0.2976107775525158	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha rotundifolia</i>	Leaf	2100.0	4300.0	2.955394130484945	--
<i>Mentha pulegium</i>	Plant				--
<i>Mentha aquatica</i>	Shoot		25.0	-0.35647627073349986	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha aquatica</i>	Shoot		115.0	-0.3060201337212278	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha x piperita</i>	Plant	40.0	1600.0	0.9268193060783411	--
<i>Mentha arvensis var. piperascens</i>	Leaf	300.0	400.0	-0.20129073177947823	--
<i>Mentha longifolia</i>	Shoot	140.0	8850.0	4.5910282751920635	--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Mentha aquatica</i>	Shoot		80.0	-0.3256419647815558	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Mentha aquatica</i>	Shoot		25.0	-0.35647627073349986	Umemoto, K., Arai, T., Nii, H. and Furukawa, K. 1993. A New Chemotype of <i>Mentha aquatica</i> Containing Sesquiterpene Alcohols as Major Components. <i>Nippon Nogeikagaku Kaishi</i> 67(10): 1417-1419.
<i>Metrosideros sclerocarpa</i>	Leaf	34.0	136.0	-0.4149740147635315	--
<i>Micromeria varia</i>	Shoot		36.0	-0.350309409543111	--
<i>Micromeria fruticosa</i>	Shoot		105.0	-0.3116263711670358	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>barbata</i> (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. <i>J. Ess. Oil Res</i> 3: 477-479.
<i>Micromeria varia</i>	Shoot		36.0	-0.350309409543111	Pedro, L.G., et al. 1995. Composition of the Essential oil of <i>Micromeria varia</i> Benth. ssp. <i>thymoides</i> (Sol. ex Lowe) Perez var. <i>thymoides</i> , and endemic species of the Madeira Archipelago. <i>flav. &amp; Fragr. J.</i> 10(3): 199-202.
<i>Micromeria myrtifolia</i>	Shoot		21.0	-0.35871876571182304	Ozek, T., Kirimer, N., and Baser, K.H.C. 1992. Composition of the Essential Oil of <i>Micromeria myrtifolia</i> Boiss. et Hohen. <i>J. Ess. Oil Res.</i> , 4: 79-80.
<i>Micromeria fruticosa</i>	Shoot		105.0	-0.3116263711670358	Fleisher, Z. and Fleisher, A. 1991. The Essential Oil of <i>Micromeria fruticosa</i> (L.) Druce subsp. <i>barbata</i> (Boiss et. Ky.), P.H. Davis. Aromatic Plants of the Holy Land and the Sinai. Part VII. <i>J. Ess. Oil Res</i> 3: 477-479.
<i>Moldavica parviflora</i>	Plant		310.0	-0.16031158487033922	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Moldavica thymiflora</i>	Plant		140.0	-0.30357689608063043	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Monarda media</i>	Plant		392.0	-0.0912071406394929	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Monarda didyma	Leaf	370.0	690.0	0.03343711695300454	--
Monarda didyma	Flower		115.0	-0.2915926657253819	Flavour and Fragrance Journal, 6: 80.
Monarda fistulosa	Plant	9.0	1891.0	1.1720558093853688	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Monarda didyma	Plant	20.0	330.0	-0.14345684237501086	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
Myristica fragrans	Essential Oil				--
Myrrhis odorata	Leaf Essent. Oil		15000.0	-0.5902784430038218	--
Nepeta racemosa	Shoot		100.0	-0.3144294898899398	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of Nepeta racemosa Lam. J. Ess. Oil Res. 5: 215-7.
Nepeta racemosa	Shoot		100.0	-0.3144294898899398	Baser, K.H.C., Ozek, T., Akgul, A. and Tumen, G. 1993. Composition of the Essential Oil of Nepeta racemosa Lam. J. Ess. Oil Res. 5: 215-7.
Ocimum basilicum	Leaf Essent. Oil		11100.0	-0.6029429234203527	--
Ocimum basilicum	Plant		35.0	-0.3920642941811044	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504.
Ocimum basilicum	Plant		35.0	-0.3920642941811044	Die Nahrung. Pino, J., Rosado, A., Goire, I., Roncal, E., and Garcia, I. 1993. Analysis of the Essential Oil from Cuban Basil. Die Nahrung 37:(5): 501-504.
Ocimum gratissimum	Shoot		210.0	-0.2527608779860518	Vostrowsky, O., Garbe, W., Bestmann, H.J. and Maia, J.G.S. 1990. Essential Oil of Alfavaca, Ocimum gratissimum, from Brazilian Amazon. Zeitschr. Naturforschung 45(C): 1073-6.
Ocimum basilicum	Shoot Essent. Oil	13600.0	36200.0	-1.277169083049922	--
Origanum vulgare	Plant		140.0	-0.30357689608063043	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four Origanum vulgare Subspecies of Anatolian Origin. J. Ess. Oil Res., 5: 425-431.
Origanum vulgare	Plant	190.0	1192.0	0.5829825591736422	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
Origanum vulgare	Plant		205.0	-0.2487989829708132	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four <i>Origanum vulgare</i> Subspecies of Anatolian Origin. <i>J. Ess. Oil Res.</i> , 5: 425-431.
Origanum syriacum	Shoot		0.0	-0.37049186434801984	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. <i>J. Ess. Oil Res.</i> 3: 121-123.
Origanum vulgare	Shoot Essent. Oil		74500.0	1.1645401955263854	--
Origanum vulgare	Plant		50.0	-0.37942323730960814	Sezik, E., Tumen, G., Kirimer, N., Ozek, T., and Baser, K.H.C. 1993. Essential Oil Composition of Four <i>Origanum vulgare</i> Subspecies of Anatolian Origin. <i>J. Ess. Oil Res.</i> , 5: 425-431.
Origanum syriacum	Shoot		50.0	-0.3424606771189798	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. <i>J. Ess. Oil Res.</i> 3: 121-123.
Origanum syriacum	Shoot		50.0	-0.3424606771189798	Fleisher, A. & Fleisher, Z. 1991. Chemical Composition of <i>Origanum syriacum</i> L. Essential Oil. <i>J. Ess. Oil Res.</i> 3: 121-123.
Panax quinquefolius	Plant				--
Pelargonium citrosum	Shoot		60.0	-0.3368544396731718	Matsuda, B. M., et al. 1996. Essential Oil Analysis and Field Evaluation of the Citrosa Plant 'Pelargonium citrosum' as a Repellent Against Populations of <i>Aedes</i> Mosquitoes. <i>J. Am. Mosq. Contr. Assoc.</i> 12(1):69-74.
Perilla frutescens	Shoot Essent. Oil		58000.0	0.11262888752353756	Nguyen, X. D., La, D. M., Lu'u, D. C., Leclercq, P. A. 1995. Essential Oil Constituents from the Aerial Parts of <i>Perilla frutescens</i> (L.) Britton. <i>J. Essent. Oil Res.</i> , 7(4): 429-432.
Petroselinum crispum	Leaf		6.9	-0.5194683777682332	--
Pimenta racemosa	Leaf	0.0	55.0	-0.48053593113363874	--
Piper nigrum	Fruit Essent. Oil	400.0	49300.0		--
Porophyllum ruderale	Plant				Loayza, I., de Groot, W., Lorenzo, D. et al. 1999. Composition of the essential oil of <i>Porophyllum ruderale</i> (Jacq.) Cass. from Bolivia. <i>Flav. &amp; Fragr. J.</i> 14: 393-8.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Pycnanthemum torreyi</i>	Shoot		90.0	-0.3200357273357478	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum pycnanthemooides</i>	Shoot	39.0	464.0	-0.11036244686252836	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum pilosum</i>	Leaf	28.0	245.0	-0.32674871989511556	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum montanum</i>	Shoot	21.0	32.0	-0.35255190452143426	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum flexuosum</i>	Shoot		264.0	-0.22248719577868856	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum virginianum</i>	Shoot	18.0	6032.0	3.0111905629633675	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum tenuifolium</i>	Shoot	114.0	9840.0	5.146045782327056	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum pilosum</i>	Flower	28.0	245.0	1.1364504141416223	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum loomisii</i>	Shoot	66.0	84.0	-0.3233994698032326	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum clinopodioides</i>	Shoot	42.0	374.0	-0.16081858387480039	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum verticillatum</i>	Shoot		63.0	-0.33517256843942944	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum setosum</i>	Shoot				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum muticum</i>	Shoot	1.0	350.0	-0.1742735537447396	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum incanum</i>	Shoot				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Pycnanthemum beadlei</i>	Shoot		21.0	-0.35871876571182304	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Rosa damascena</i>	Essential Oil				--

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Salvia gilliesii</i>	Shoot		575.0	-0.048133211214059515	Velasco-Negueruela, A. et al. 1993. The Essential Oil of <i>Salvia gilliesii</i> Benth. J. Ess. Oil Res. 5: 319-320.
<i>Salvia sclarea</i>	Plant	3.0	312.0	-0.1586261106208064	Flavour and Fragrance Journal, 6: 154.
<i>Sassafras albidum</i>	Leaf	0.2	7.2	-0.5192255558557514	--
<i>Satureja grandiflora</i>	Shoot		135.0	-0.2948076588296118	Carnat, A., Chossegros, A., and Lamaison, J. 1991. The Essential Oil of <i>Satureja grandiflora</i> (L.) Scheele from France. J. Ess. Oil Res., 3: 361-362
<i>Satureja vulgaris</i>	Plant		259.0	-0.2032911782334266	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Satureja douglasii</i>	Plant		26.0	-0.39964892830400217	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Satureja montana</i>	Plant	5.0	95.0	-0.3415000666951193	--
<i>Satureja glabella</i>	Plant		30.0	-0.3962779798049365	--
<i>Scutellaria galericulata</i>	Plant		13.0	-0.4106045109259656	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Scutellaria churchilliana</i>	Plant		19.0	-0.4055480881773671	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Sideritis athoa</i>	Shoot		45.0	-0.3452637958418838	Ozek, T., Baser, K.H.C. and Tumen, G. 1993. The Essential Oil of <i>Sideritis athoa</i> Papanikolaou Et Kokkini. J. Ess. Oil Res. 5: 669-670.
<i>Sideritis pauli</i>	Shoot		95.0	-0.3172326086128438	Burzaco, A., Velasco-Negueruela, A. and Perez-Alonso, M.J. 1992. Essential Oil Analysis of <i>Sideritis pauli</i> Pau. FFJ7: 47-8. 1992.
<i>Sideritis germanicolpitana</i>	Plant	22.0	42.0	-0.38616513430773947	J. Essential Oil, 4: 533.
<i>Stachys germanica</i>	Plant		43.0	-0.38532239718297306	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
<i>Stevia rebaudiana</i>	Leaf				Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Stevia rebaudiana</i>	Flower				Kinghorn, A. D. (Ed.) 2002. Medicinal and Aromatic Plants - Industrial Profiles. Stevia. The genus Stevia. Taylor & Francis. New York, NY. 211 pp.
<i>Tagetes lucida</i>	Shoot		160.0	-0.2807920652150918	Bicchi, C., Fresia, M., Rubiolo, P., Monti, D., Franz, C., Goehler, I. 1997. Constituents of <i>Tagetes lucida</i> Cav. ssp. <i>lucida</i> essential oil. <i>Flavor &amp; Fragrance</i> , 12(1): 47-52.
<i>Tagetes minuta</i>	Flower Essent. Oil		1900.0		--
<i>Tanacetum parthenium</i>	Leaf Essent. Oil		31000.0	-0.5383216002693361	--
<i>Tanacetum vulgare</i>	Plant	1400.0	2000.0	1.2639141559849085	--
<i>Tanacetum parthenium</i>	Tissue Culture				--
<i>Tanacetum vulgare</i>	Pm	1400.0	2000.0		--
<i>Tanacetum parthenium</i>	Essential Oil		46000.0	-1.0	--
<i>Tanacetum parthenium</i>	Shoot		4.0	-0.36824936936969666	--
<i>Teucrium asiaticum</i>	Shoot		5.17	-0.3675934395885371	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Teucrium oxylepis</i>	Shoot		5.93	-0.36716736554265567	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Teucrium pseudoscorodonia</i>	Shoot		11.33	-0.36413999732191943	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Teucrium polium</i>	Shoot		4.0	-0.36824936936969666	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian <i>Teucrium</i> Species. <i>J. Ess. Oil Res.</i> 5: 397-402.
<i>Teucrium arduini</i>	Shoot		165.0	-0.2779889464921878	Blazevic, N., Kalodera, Z., Petricic, J., and Plazibat, M. 1992. Essential Oil Content and Composition of <i>Teucrium arduini</i> L. <i>J. Ess. Oil Res.</i> 4: 223-225.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Teucrium gnaphalodes</i>	Shoot		1.5	-0.36965092873114863	Perez-Alonso, M.J. Velasco-Negueruela, A. and Lopez-Saez, J.A. 1993. The Essential Oils of Two Iberian Teucrium Species. <i>J. Ess. Oil Res.</i> 5: 397-402.
<i>Teucrium oxylepis</i>	Shoot		3.3	-0.36864180599090324	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Teucrium arduini</i>	Shoot		165.0	-0.2779889464921878	Blazevic, N., Kalodera, Z., Petricic, J., and Plazibat, M. 1992. Essential Oil Content and Composition of <i>Teucrium arduini</i> L. <i>J. Ess. Oil Res.</i> 4: 223-225.
<i>Teucrium salviastrum</i>	Shoot		7.75	-0.36614703032751866	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Teucrium scorodonia</i>	Shoot		12.76	-0.3633383053671688	Velasco-Negueruela, A. and Perez-Alonso, M.J. 1990. The Volatiles of Six <i>Teucrium</i> Species from the Iberian Peninsula and the Balearic Islands. <i>Phytochemistry</i> 29(4): 1165-9.
<i>Thymus serpyllum</i>	Plant	3.0	573.0	0.06132827894322891	--
<i>Thymus funkii</i>	Shoot		16.0	-0.36152188443472705	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of <i>Thymus funkii</i> . <i>Cousson. Flav. &amp; Fragr. J.</i> 10(6): 379-383.
<i>Thymus riatarum</i>	Shoot		0.1	-0.3704358019735618	Iglesias, J., Vila, R., Canigeral, S., Bellakdhar, and II Idrissi, A. 1991. Analysis of the Essential Oil of <i>Thymus riatarum</i> . <i>J. Ess. Oil Res.</i> 3: 43-4.
<i>Thymus longicaulis</i>	Shoot		14.0	-0.36264313192388864	Baser, K.H.C., Ozek, T., Kirimer, N. and Tumen, G. 1993. The Occurrence of Three Chemotypes of <i>Thymus longicaulis</i> C. Presl subsp. <i>longicaulis</i> in the same Population. <i>J. Ess. Oil Res.</i> 5: 291-5.
<i>Thymus capitatus</i>	Plant	20.0	30.0	-0.3962779798049365	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.

Plant	Part	Low PPM	High PPM	StdDev	Reference
<i>Thymus funkii</i>	Shoot		16.0	-0.36152188443472705	Vila, R., et al. 1995. Composition and study of the variability of the essential oil of <i>Thymus funkii</i> . Cousson. Flav. & Fragr. J. 10(6): 379-383.
<i>Thymus cilicicus</i>	Shoot		160.0	-0.2807920652150918	Tumen, G., Koyuncu, M., Kirimer, N., and Baser, K.H.C. 1994. Composition of the Essential Oil of <i>Thymus cilicicus</i> Boiss. & Bal. J. Ess. Oil Res. 6: 97-8.
<i>Thymus longicaulis</i>	Shoot		33.0	-0.35199128077685343	Baser, K.H.C., Ozek, T., Kirimer, N. and Tumen, G. 1993. The Occurrence of Three Chemotypes of <i>Thymus longicaulis</i> C. Presl subsp. <i>longicaulis</i> in the same Population. J. Ess. Oil Res. 5: 291-5.
<i>Thymus x citriodorus</i>	Plant		110.0	-0.328859009823623	Stahl-Biskup, E. and Holthuijzen, J. 1995. Essential oil and glycosidally bound volatiles of lemon-scented thyme, <i>Thymus x citriodorus</i> (Pers.) Schreb. Flav. & Fragr. J. 10: 225-229.
<i>Thymus longicaulis</i>	Shoot		33.0	-0.35199128077685343	Baser, K.H.C., Ozek, T., Kirimer, N. and Tumen, G. 1993. The Occurrence of Three Chemotypes of <i>Thymus longicaulis</i> C. Presl subsp. <i>longicaulis</i> in the same Population. J. Ess. Oil Res. 5: 291-5.
<i>Vitex agnus-castus</i>	Leaf		0.2	-0.5248914004803286	Ekundayo, O., Laakso, I., Holopainen, M., Hiltunen, R., Oguntieme, B., and Kauppinen, V. 1990. The Chemical Composition and Antimicrobial Activity of the Leaf Oil of <i>Vitex agnus-castus</i> L. J. Essential Oil Research, 2: 115-119.